## REMARKS

In this paper, claims 1, 20 and 22 are currently amended, and claims 8, 10, 12, 29, 31 and 33 are re-presented. After entry of the above amendment, claims 1-38 are pending.

The abstract has been amended to be less than 150 words.

Claims 9 and 30 were rejected under 35 U.S.C. §112 as being indefinite. This basis for rejection is respectfully traversed.

Claims 9 and 30 read on, for example, the signals shown in Fig. 3(D). As shown therein, the signal on channel 1 occurs simultaneously with the signal on channel 2 for the entire duration of the signal on channel 2, but the signal on channel 1 also occurs prior to the start of the signal on channel 2.

Claims 14-16 were rejected under 35 U.S.C. §102(b) as being anticipated by Colbert, et al (US 5,213,548). This basis for rejection is respectfully traversed.

Claim 14 recites an automatic shift control unit operatively coupled to a speed communication path and to a shift command communication path for automatically generating shift commands based on information received from a speed sensor. Since claim 14 depends from claim 1, claim 14 also requires that, when the transmission control unit receives at least one shift command requesting a shift through N speed stages to a destination speed stage, where N is an integer greater than one, the transmission control unit generates information for causing the first transmission and the second transmission in combination to move a total of M times to reach the destination speed stage, where M is an integer less than N.

Colbert, et al disclose a gear shifting system for a derailleur-equipped bicycle wherein a programmed microcontroller tests whether pedal cadence is within a desired range. If the cadence is not within the desired range, then the front and rear derailleurs are controlled to select an appropriate gear combination to place the cadence within the desired range. When the gear shifting system is in automatic mode, the microcontroller loops through the automatic routine shown in Fig. 12(g). As

explained in col. 11, line 46 through col. 12, line 64, the microcontroller keeps track of which gear is currently in use and also stores the actual gear ratio for all gears. When the cadence is not within the desired limits, the microcontroller moves the derailleurs to the next higher or lower gear ratio. If the cadence still is not within the desired limits the next time through the loop, then the microcontroller again moves the derailleurs to the next higher or lower gear ratio. The process repeats with a single shift to the next higher or lower gear ratio each time through the routine until the cadence is within the desired limits. Thus, Colbert, et al sequentially steps through the gear ratios and will not provide the claimed feature of generating information for causing the first transmission and the second transmission in combination to move a total of M times to reach the destination speed stage, where M is an integer less than N.

Claims 1-7, 13, 18, 20-28 and 34 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ethington (US 5,681,234) in view of Darby (US 4,412,828). This basis for rejection is respectfully traversed.

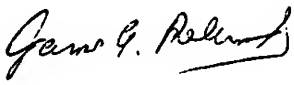
Claims 1, 20 and 22 have been amended to clarify that the shift commands are electronic shift commands and that the transmission control unit receives at least one shift command requesting a shift through N speed stages in a range where all speed stages are available. Darby discloses a mechanical unit for shifting front and rear bicycle derailleurs and is not concerned with electronic shift commands. Ethington discloses an automatic bicycle transmission wherein sprocket combinations representing successively increasing gear ratios may be stored in a table, and wherein a control unit operates front and rear bicycle derailleurs to sequentially upshift from the lowest to the highest gear ratio and sequentially downshift from the highest to the lowest gear ratio. That embodiment does not provide the claimed feature of generating information for causing the first transmission and the second transmission in combination to move a total of M times to reach the destination speed stage, where M is an integer less than N. In another embodiment, a shift pattern can be established in the automatic control system which selectively skips certain gear ratios available from the transmission. However, in that embodiment the transmission control unit does not receive shift commands requesting shifts through N speed stages to a destination speed stage in a range where all speed stages are available. Thus, neither Ethington nor Darby alone or in combination disclose or suggest the subject matter presently claimed.

Claims 35-37 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ethington in view of Darby and Colbert, et al. This basis for rejection is respectfully traversed for the same reasons noted above. Furthermore, there is no evidence or suggestion that Colbert's sensor would increase efficiency of a system such as that disclosed in either Ethington or Darby.

Claims 17, 19 and 38 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ethington in view of Darby and Spencer, et al (US 6,047,230). This basis for rejection is respectfully traversed for the same reasons noted above. Furthermore, there is no evidence or suggestion that Spencer, et al's cadence sensor would increase efficiency and safety of a system such as that disclosed in either Ethington or Darby.

Accordingly, it is believed that the rejections under 35 U.S.C. §102, §103 and §112 have been overcome by the foregoing amendment and remarks, and it is submitted that the claims are in condition for allowance. Reconsideration of this application as amended is respectfully requested. Allowance of all claims is earnestly solicited.

Respectfully submitted,



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